DEPARTMENT OF THE INTERIOR
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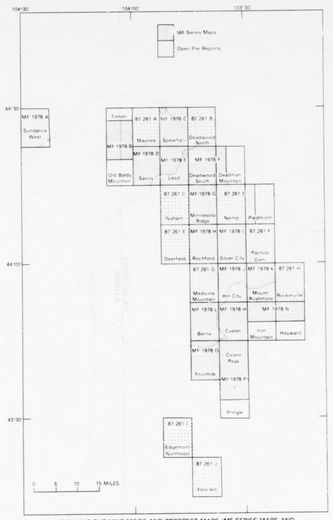

INDEX MAP SHOWING MINES AND PROSPECT MAPS (MF-SERIES MAPS AND OPEN FILE REPORTS) IN THE BLACK HILLS REGION

EXPLANATION

Mine—Location known. Distinguished from prospect by name of mine next to symbol. Alternate names or synonyms(s) in parentheses. If there is enough space on the map, the entire mine name and synonym(s) are shown; otherwise, mine name may be abbreviated and synonym(s) deleted from map. Full mine names and all synonyms are shown in the "Alphabetic list of mines"

- Adit
- Open pit or other type of opening
- Quarry
- Gravel pit

Mine—Approximate location shown. Open pit, shaft, adit, or other type of opening

Prospect

- Shaft
- Pit
- Multiple pits

Patented claim—See alphabetic and numeric lists of patented claims. Asterisk (*) indicates part of claim extends into adjacent quadrangle. Dollar sign ($) indicates most of claim in adjacent quadrangle. Boundaries between claims not shown

Lode claim—Orientation of number parallel to long axis of claim

Placer claim—Number approximately in center of claim

INTRODUCTION

This map is one in a set of 26 maps (see index map) at 1:24,000 scale of the Black Hills region of South Dakota and Wyoming on which are shown a geologic classification of mines, a bibliography of mineral deposits, and locations of active and inactive mines, prospects, and patented mining claims. Some of these maps have been published as U.S. Geological Survey Miscellaneous Field Studies Maps (MF-series) and some as U.S. Geological Survey Open-File Reports (OF-series), see index map. An earlier unpublished version of this set of maps was the data base from which plate 4 (scale 1:250,000) of DeWitt and others (1986) was compiled. Subsequent to that publication the set has been revised and updated and prospects and patented claims have been added. These revised and more detailed 1:24,000-scale maps should be used for the equivalent areas of plate 4 of DeWitt and others (1986).

J. J. Norton, J. A. Redden, J. P. Grace, and W. L. Roberts reviewed the set of maps. Bob Tambrick helped digitize much of the information.

SOURCES OF INFORMATION

Outlines of patented mining claims were obtained from 1:24,000-scale Forest Service Status Plats, available for inspection at the U.S. Forest Service, Rocky Mountain Region, 11,11 West 6th Avenue, Denver, CO 80225. Names of patented claims were obtained from the Pennington County Courthouse, Rapid City, South Dakota. Claims have been located as accurately as possible, but this map is not to be used for legal nor precise locations of mining claims.

Locations of mines and prospects were compiled from all available published and unpublished data. The locations of active and inactive mines in this quadrangle were taken from Allman (1940), Bayley (1972), Connolly (1933), Connolly and O'Harra (1929), Evans (1931), Fricke (1982), Barrer (1966), Norton (unpub. data, 1980), O'Harra (1902), Townsend (1931), U.S. Bureau of Mines (1954, 1986), and U.S. Geological Survey, Zeitner (1977). Also, in some instances, different sources of information gave conflicting location information for mines with the same name. Where possible, this conflict was resolved by comparing the name of the mine to adjacent patented claims, by comparing the description of the deposit to the known geology and topography of the area, or by communication with past owners of the property. In some instances, a unique location was not possible with existing information; in that event the most logical location was chosen. The location of some or many mines on this map may differ from those in present data bases such as the U.S. Bureau of Mines Mineral Inventory Location System (MILS) or the U.S. Geological Survey Mineral Resources Data System (MRDS), formerly the Computerized Resources Information Bank (CRIB).

Locations of prospects in this quadrangle were taken from Bayley (1972), Martin (1963), and Norton (unpub. data, 1986). Because many quadrangles, or parts of quadrangles, have not been mapped in as much detail as other quadrangles, comparison of the density of prospects from one quadrangle to another, or even within one quadrangle, is not warranted. As an example, part of a quadrangle may be shown on the map as having more prospects than another part, but the first part may have been mapped in greater detail than the second part. Similarly, a part of a quadrangle may have many prospects that are not shown on this map because the original source of information did not show prospect pits.

Geologic data for the map are from Bayley (1972), Bartlett and Faller (1923), DeWitt and others (1986), Fantone (1983), Fricke (1982), Harrer (1966), Kleinkopf and Redden (1973), Maris (1963), Norton (unpub. data, 1986), Redden and Norton (1975), and Shaddrick (1971).

PRECISION OF LOCATION INFORMATION

All mine symbols except the unfilled diamond (◇) indicate that the location of the deposit is known within a 200-foot radius. The type of opening at a mine (adit, shaft, open pit, trench, and others) is designated by one of ten different symbols. The unfilled diamond symbol indicates that the location is known only to within a 1/4 mile radius, and that the type of mine opening is unknown.

Mines and prospects whose locations could not be verified to within less than a 1/4 mile radius were not plotted on the map.

PATENTED CLAIM AND MINE LISTS

Patented mining claims are listed both numerically and alphabetically. Mines are listed alphabetically. For ease in locating the claim or mine on the map, the legal description (section, township, range) is given.

Each patented claim on the map is represented by a number keyed to the numeric and alphabetic listings. Where possible, the claim numbers are plotted approximately in the center of the claim and parallel to its long axis. Boundaries between adjacent claims are not shown. An asterisk (*) following a claim number indicates that most of the claim is in this quadrangle, but it extends into the adjacent quadrangle. A dollar sign ($) following a claim number indicates that most of the claim is in the adjacent quadrangle, but part of it is in this quadrangle. Claims outlined with a solid line are patented lode claims; claims outlined with a dotted line are patented placer claims. Many placer workings on unpatented claims have not been plotted on the maps, principally because the workings lacked a name.

On the map, the most common or most used name of a mine is normally next to its mine symbol. If there is space, any alternate names or synonyms are in parentheses following the most common name. On some maps, where space does not permit showing the first name or any alternate names, the names are shown by a single letter, two letters, or an abbreviation of the name; the mines are keyed to that letter or abbreviation in the alphabetic and numeric lists. Mines with more than one name have the alternate name(s) or synonym(s) shown in parentheses in the alphabetic lists. The first alternate name or synonym is also alphabetized in the alphabetic list of mines; second or third alternate names may not be alphabetized. Uncertain alternate names are not alphabetized and are followed by a query (?).

CLASSIFICATION OF MINES AND DEPOSITS

Mines and deposits are categorized according to geologic criteria of age, environment of formation, and contained metals, as in DeWitt and others (1986, p. 52–53). Deposit-type letter designations (A, C, and so on) correspond to those in DeWitt and others (1986) for deposit types are used in the alphabetic list of mines. The criteria used for the deposit types are briefly summarized below and are explained more fully in DeWitt and others (1986).

PRINCIPAL TYPES OF DEPOSITS

A—Archean and Proterozoic taconitic iron-formations are stratiform metasedimentary deposits of iron and silica that were formed in a submarine environment about 1.8–2.2 Ga (billion years ago). The metals were concentrated in sedimentary rocks by volcanic or chemical processes.

C—Proterozoic carbonate-, silicate-, and sulfide-facies iron-formations are syngenetic stratiform deposits of gold, silver, and arsenic formed in a submarine environment about 1.8–2.2 Ga. The metals were concentrated in sedimentary and volcaniclastic rocks by biologic, sedimentologic, or hydrothermal processes.

D—Proterozoic veins and shear zones are discordant deposits of gold, silver, lead, and minor amounts of zinc, copper, and arsenic formed in a metamorphic and tectonic environment about 1.8–1.9 Ga. Hydrothermal solutions concentrated the metals in metasedimentary rocks.

Q—Tertiary and Recent placers are bedded sedimentary deposits of gold and cassiterite formed in a terrestrial environment by rivers and streams transporting and concentrating heavy minerals in stream channels.

R—Cambrian collusion is a stratabound deposit of iron formed in a surface weathering environment about 500 Ma. Extensive weathering and minimal transport of the underlying Precambrian rocks resulted in accumulations of iron-rich debris and fine-grained material near the base of the Cambrian strata.

REFERENCES CITED

Allman, P. T., 1940, Reconnaissance of gold-mining districts in the Black Hills, South Dakota: U.S. Bureau of Mines Bulletin 427, 145 p.

Bayley, R. W., 1972, Geologic field compilation map of the northern Black Hills, South Dakota: U.S. Geological Survey Open-File Report 72-29, scale 1:48,000.

Connolly, J. P., 1933, Geologic history of Black Hills gold placers: South Dakota Geological Survey Report of Investigations 19, 1 p.

Connolly, J. P., and O'Harra, C. C., 1929, The mineral wealth of the Black Hills: South Dakota School of Mines and Technology Bulletin 16, 418 p.

Darton, N. H., and Paige, Sidney, 1925, Central Black Hills [quadrangle], South Dakota: U.S. Geological Survey Geologic Atlas of the United States, Folio 219, 14 p.

DeWitt, Ed, Redden, J. A., Wilson, Anna Burack, and Buscher, David, 1986, Mineral resource potential and geology of the Black Hills National Forest, South Dakota and Wyoming, with a section on salable commodities, by T. S. Ostrom: U.S. Forest Service/U.S. Geological Survey Bulletin 1580, 133 p.

Evans, Charles, 1931, Placer mining on Rapid Creek: Black Hills Engineer, v. 19, p. 133–134.

Fantone, Kenneth, 1983, Geochemistry and petrology of the carbonate iron formations and ferruginous cherts of the northeastern Black Hills, South Dakota: Rapid City, South Dakota School of Mines and Technology, M.S. thesis, 107 p.

Fricke, J. R., 1982, Geologic investigation of Precambrian mafic intrusive rocks near Nemo mining, Pennington County, South Dakota: Rapid City, South Dakota School of Mines and Technology, M.S. thesis, 83 p.

Harrer, C. M., 1966, Iron resources of South Dakota: U.S. Bureau of Mines Information Circular 8279, 140 p.

Kleinkopf, M. D., and Redden, J. A., 1973, Bouger gravity, aeromagnetic, and generalized geologic maps of part of the Black Hills of South Dakota and Wyoming: U.S. Geological Survey Geophysical Investigations Map GP-903, scale 1:250,000.

Maris, J. R., 1963, Structure and depositional environment of the Precambrian rocks in the Nemo area, Black Hills, South Dakota: Rapid City, South Dakota School of Mines and Technology, M.S. thesis, 89 p.

O'Harra, C. C., 1902, The mineral wealth of the Black Hills: South Dakota School of Mines and Technology Bulletin 2, 68 p.

Redden, J. A., and Norton, J. J., 1975, Precambrian geology of the Black Hills, in U.S. Congress, Senate Committee on Interior and Insular Affairs, Mineral and water resources of South Dakota: 94th Congress, 1st session, p. 21–28.

Shaddrick, David, 1971, Metaconglomerates in the east-central Black Hills of South Dakota: Rapid City, South Dakota School of Mines and Technology, M.S. thesis, 87 p.

Townsend, ——, 1931, Placer mining operations near Sheridan: Black Hills Engineer, v. 19.

U.S. Bureau of Mines, 1954, Black Hills mineral atlas, South Dakota, Part II: U.S. Bureau of Mines Information Circular 7688, 123 p.

——, 1986, Mineral Inventory Location System (MILS): U.S. Bureau of Mines active computer files; data available from U.S. Bureau of Mines, Intermountain Field Operations Center, Building 20, Denver Federal Center, Denver, CO 80225.

U.S. Geological Survey, 1986, Mineral Resources Data System (MRDS, formerly Computer Resources Information Bank, CRIB): U.S. Geological Survey active computer files; data available from U.S. Geological Survey, Branch of Resource Analysis, Building 25, Denver Federal Center, Denver, CO 80225.

Zeitner, J. C., 1977, Placer gold in the Black Hills: Lapidary Journal, v. 31, p. 1478, 1480, 1482, 1484, 1486.

Alphabetic list of mines

[Deposit type letter designations are explained in the text]

Deposit Type	Name of Mine	Location
D	Ashley and Nyswanger (Dexter Claims)	Sec. 1 T1N R3E
D	Copper Glance (Poisoned Ox)	Sec. 1 T1N R3E
D	Dexter Claims (Ashley and Nyswanger)	Sec. 1 T1N R3E
R A	Green Granite Quarry, Hematite	Sec. 21 T1N R4E Sec. 29 T1N R4E
D	Neppers	Sec. 2 T1N R3E
D	Poisoned Ox (Copper Glance)	Sec. 1 T1N R3E
R A	Poznansky Iron	Sec. 29 T1N R4E
	Shanks Gulch Gravel Pit	Sec. 8 T1N R4E
D	Unnamed	Sec. 30 T1N R4E
D	Unnamed	Sec. 22 T1N R3E
Q?	Unnamed	Sec. 1 T1N R3E
D	Unnamed (1)	Sec. 1 T1N R3E
Q	Unnamed (2)	Sec. 1 T1N R3E
Q?	Unnamed	Sec. 36 T1N R3E
D	Unnamed	Sec. 21 T1N R4E
D	Unnamed	Sec. 31 T1N R4E
R	Unnamed	Sec. 5 T1N R4E

Alphabetic list of patented claims

[Asterisk (*) indicates that part of claim extends into adjacent quadrangle; dollar sign ($) indicates that most of claim is in the adjacent quadrangle]

Claim number	Name of Claim	Location
923	Adonis No.1	Sec. 26 T1N R3E
924	Adonis No.2	Sec. 26 T1N R3E
928	Adonis No.3	Sec. 23 T1N R3E
912	Adonis No.4	Sec. 23 T1N R3E
911	Adonis No.5	Sec. 23 T1N R3E
904	Aurora	Sec. 29 T2N R4E
903	Bertha	Sec. 4 T1N R4E
906	Big Send Placer	Sec. 4 T1N R4E
932	Chicago No.1	Sec. 23 T1N R3E
933	Chicago No.2	Sec. 23 T1N R3E
935	Chicago No.3	Sec. 22 T1N R3E
934	Chicago No.4	Sec. 22 T1N R3E
3358	Chicago No.5	Sec. 22 T1N R3E
3360	Chicago No.7	Sec. 22 T1N R3E
936	Chicago No.8	Sec. 22 T1N R3E
931	Chicago No.9	Sec. 23 T1N R3E
3405	Clear Creek Placer	Sec. 4 T1N R4E
909	Fort Meade Hydraulic Placer	Sec. 4 T1N R4E
910	Limonite Lode	Sec. 23 T1N R3E
929	Lucky Jim No.1	Sec. 26 T1N R3E
926	Lucky Jim No.2	Sec. 26 T1N R3E
909	Mary E. Lode	Sec. 19 T1N R4E
3379	New Homestake No.1	Sec. 22 T1N R3E
937	New Homestake No.2	Sec. 22 T1N R3E
930	New Homestake No.3	Sec. 23 T1N R3E
924	New Homestake No.4	Sec. 26 T1N R3E
939	New Homestake No.5	Sec. 22 T1N R3E
907	Norse Placer	Sec. 4 T1N R4E
901	Pelham Lode No.1	Sec. 19 T2N R4E
902	Pelham Lode No.2	Sec. 30 T2N R4E
3368	Queen of the Hills No.1	Sec. 22 T1N R3E
938	Queen of the Hills No.2	Sec. 22 T1N R3E
929	Queen of the Hills No.3	Sec. 27 T1N R3E
908	Rubeadic Lode	Sec. 22 T1N R4E
0419	Saxon Placer	Sec. 4 T1N R4E
913	Sunshine Lode No.1	Sec. 26 T1N R3E
916	Sunshine Lode No.2	Sec. 26 T1N R3E
917	Sunshine Lode No.3	Sec. 26 T1N R3E
920	Sunshine Lode No.4	Sec. 26 T1N R3E
918	Sunshine Lode No.5	Sec. 26 T1N R3E
915	Sunshine Lode No.6	Sec. 26 T1N R3E
914	Sunshine Lode No.7	Sec. 26 T1N R3E
927	Sunshine Lode No.8	Sec. 26 T1N R3E
921	Sunshine Lode No.9	Sec. 26 T1N R3E
919	Sunshine Lode No.10	Sec. 26 T1N R3E

Numerical list of patented claims

[Asterisk (*) indicates that part of claim extends into adjacent quadrangle; dollar sign ($) indicates that most of claim is in the adjacent quadrangle]

Claim number	Name of Claim	Location
901	Pelham Lode No.1	Sec. 19 T2N R4E
902	Pelham Lode No.2	Sec. 30 T2N R4E
903	Bertha	Sec. 4 T1N R4E
904	Aurora	Sec. 29 T2N R4E
905	Fort Meade Hydraulic Placer	Sec. 4 T1N R4E
906	Big Send Placer	Sec. 4 T1N R4E
907	Norse Placer	Sec. 4 T1N R4E
908	Rubeadic Lode	Sec. 22 T1N R4E
909	Mary E. Lode	Sec. 19 T1N R4E
910	Limonite Lode	Sec. 23 T1N R3E
911	Adonis No.5	Sec. 23 T1N R3E
912	Adonis No.4	Sec. 23 T1N R3E
913	Sunshine Lode No.1	Sec. 26 T1N R3E
914	Sunshine Lode No.7	Sec. 26 T1N R3E
915	Sunshine Lode No.6	Sec. 26 T1N R3E
916	Sunshine Lode No.2	Sec. 26 T1N R3E
917	Sunshine Lode No.3	Sec. 26 T1N R3E
918	Sunshine Lode No.5	Sec. 26 T1N R3E
919	Sunshine Lode No.10	Sec. 26 T1N R3E
920	Sunshine Lode No.4	Sec. 26 T1N R3E
921	Sunshine Lode No.9	Sec. 26 T1N R3E
923	Adonis No.1	Sec. 26 T1N R3E
924	New Homestake No.4	Sec. 26 T1N R3E
925	Lucky Jim No.2	Sec. 26 T1N R3E
926	Lucky Jim No.1	Sec. 26 T1N R3E
927	Sunshine Lode No.8	Sec. 26 T1N R3E
928	Adonis No.3	Sec. 23 T1N R3E
929	Queen of the Hills No.3	Sec. 27 T1N R3E
930	New Homestake No.3	Sec. 23 T1N R3E
931	Chicago No.9	Sec. 23 T1N R3E
932	Chicago No.1	Sec. 23 T1N R3E
933	Chicago No.2	Sec. 23 T1N R3E
934	Chicago No.4	Sec. 22 T1N R3E
935	Chicago No.3	Sec. 22 T1N R3E
936	Chicago No.8	Sec. 22 T1N R3E
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3360	Chicago No.7	Sec. 22 T1N R3E
3368	Queen of the Hills No.1	Sec. 22 T1N R3E
3379	New Homestake No.1	Sec. 22 T1N R3E
3405	Clear Creek Placer	Sec. 4 T1N R4E
0419	Saxon Placer	Sec. 4 T1N R4E

MAP OF MINES, PROSPECTS, AND PATENTED MINING CLAIMS, AND CLASSIFICATION OF MINERAL DEPOSITS IN THE PACTOLA DAM 7 ½ MINUTE QUADRANGLE, BLACK HILLS, SOUTH DAKOTA

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